

Abstract: The invention relates to a process for monitoring exogenous nucleic acid in transit, termed Visualization Of Introduced DNA (VOID). Once the nucleic acid has been introduced into a cell in a biological sample, the cells are

5 fixed and permeabilized if necessary, then subjected to an *in situ* hybridization procedure in which the fixed cells are contacted with a probe which hybridizes to the exogenous nucleic acid. The exogenous nucleic acid, in transit, can thus be visualized. VOID may be used (a) to determine the

10 efficiency of delivery of the nucleic acid into the nucleus; (b) to assess the risk associated with DNA delivery procedures where, by tracking the fate of the DNA, it can be determined whether too many of the exogenous DNA are delivered, which may lead to an undesired consequence;

15 (c) to control the copy number of DNA delivery during the development of a transgenic product or a product containing an exogenous nucleic acid as the active ingredient; (d) to identify cells as having been transformed or transfected with an exogenous DNA, without the use of selection markers

20 or reporters; (e) to identify molecular markers associated with transformation competency of a cell and identifying a cell that is competent to receive exogenous nucleic acid; (f) identifying, characterizing and producing cells competent to receive exogenous nucleic acid. VOID has been

25 used successfully to identify the cellular protein VirD2-Interacting protein (VDI) as such a molecular marker. Thus a cell may be identified as being transformation-competent if and when it expresses VDI.